

## CLAIMS

1. A portable electronic device comprising a display module and a battery unit for driving the device, the device having at least one further analogue input or output interface, wherein the display module comprises a voltage converter for providing at least one voltage exceeding the battery unit voltage, and wherein an output from the voltage converter of the display module is provided to a circuit associated with the at least one further analogue input or output interface.
2. A device as claimed in claim 1, wherein the display module comprises an active matrix LCD module, comprising row and column driver circuits.
3. A device as claimed in claim 1 or 2, wherein the circuit associated with the at least one further analogue input or output interface comprises one or more of a speaker driver circuit, a microphone amplifier and a touch-sensitive screen interface.
4. A device as claimed in any preceding claim, wherein the circuit associated with at least one further analogue input or output interface is provided within the display module.
5. A device as claimed in any preceding claim, wherein a digital interface is provided between the display module and the remaining circuitry of the device.
6. A device as claimed in any preceding claim, wherein the voltage converter provides a first output for the row driver circuit and a second output for the column driver circuit, and an additional output or outputs for the or each circuit.

7. A device as claimed in any preceding claim wherein the display module comprises additional circuit elements.

8. A device as claimed in any preceding claim comprising a mobile  
5 telephone or a PDA.

9. A display module for a battery-operated portable electronic device, the module comprising a voltage converter for providing at least one voltage exceeding the battery voltage for driving the display, and wherein the  
10 display module further comprises a circuit associated with at least one further analogue input or output interface device, and wherein an output from the voltage converter of the display module is provided to the circuit.

## CLAIMS WITH REFERENCES

1. A portable electronic device (40) comprising a display module (42) and a battery unit (44) for driving the device, the device having at least one further analogue input or output interface (50,52,54), wherein the display module (42) comprises a voltage converter (48) for providing at least one voltage exceeding the battery unit voltage, and wherein an output from the voltage converter (48) of the display module is provided to a circuit (50a,52a,54a) associated with the at least one further analogue input or output interface (50,52,54).

2. A device as claimed in claim 1, wherein the display module comprises (42) an active matrix LCD module, comprising row and column driver circuits (30,32).

3. A device as claimed in claim 1 or 2, wherein the circuit (50a,52a,54a) associated with the at least one further analogue input or output interface (50,52,54) comprises one or more of a speaker driver circuit (50a), a microphone amplifier (52a) and a touch-sensitive screen interface (54a).

4. A device as claimed in any preceding claim, wherein the circuit associated with at least one further analogue input or output interface is provided within the display module (42).

5. A device as claimed in any preceding claim, wherein a digital interface (62) is provided between the display module (42) and the remaining circuitry (46) of the device.

6. A device as claimed in any preceding claim, wherein the voltage converter (48) provides a first output for the row driver circuit (30) and a second output for the column driver circuit (32), and an additional output or outputs for the or each circuit (50a,52a,54a).

7. A device as claimed in any preceding claim wherein the display module (42) comprises additional circuit elements.

5 8. A device as claimed in any preceding claim comprising a mobile telephone (80) or a PDA.

9. A display module (42) for a battery-operated portable electronic device (40), the module comprising a voltage converter (48) for providing at  
10 least one voltage exceeding the battery voltage for driving the display, and wherein the display module further comprises a circuit (50a,52a,54a) associated with at least one further analogue input or output interface device (50,52,54), and wherein an output from the voltage converter (48) of the display module is provided to the circuit (50a,52a,54a).

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